BTEC

Pearson BTEC Level 3 National in Information Technology

Unit 2: Creating Systems to Manage Information

Sample Assessment Materials (SAMs)

For use with Certificate, Extended Certificate and Foundation Diploma in Information Technology

First teaching from September 2016   **Issue 4**

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Summary of changes

Original Format	New Format
Activity 1 - Database relationship screenprint	**Part A – Activity 1 - Database relationship screenprint**
Learners: • studied a large text file data set • normalised/carried out data analysis to determine entities, attributes, keys and relationships • built the structure of the tables • produced a screen print of a relationship diagram from their database. Marks: 8 No template provided	Learners will: • study a small data extract • normalise/carry out data analysis to determine entities, attributes, keys and relationships • build the structure of the tables • produce a screen print of a relationship diagram from their database. Marks: 8 No template provided **Key difference:** • data extract is much smaller (fewer records and fewer fields) • no data file provided
Activity 2 - Table Structures	**Part A - Activity 2 – Table Structures**

Learners:
• assigned data types
• added validation:
   o 1 presence check with a list of other checks applied
   o 3 length checks
   o all format checks
   o all range checks
   o all value lookups
   o all table lookups.
• produced screen print evidence:
   o tables including table names, field names and data types
   o all of the validation listed.
 	
Marks: 8
Template provided
	Leaners will:
	• assign data types
	• add validation:
	   o 1 presence check
	   o 1 length check
	   o 1 format check
	   o 1 range check or value lookup
	   o 1 table lookup.
	• produce screen print evidence:
	   o tables including table names, field names and data types
	   o all of the validation listed
	
	Marks: 8
	Template provided
	
	Key differences:
	• there are less records and fields
	• candidates have to input data into database/no data file provided
	• fewer screen prints are required

Activity 3 – Forms, queries, report and automation	**Part A – Activity 3 – Queries and report**

Learners:
• produced a simple data input form:
   o customised it
     ▪ title
     ▪ layout
     ▪ data input aids etc
   o added automated routine
     ▪ only save the record if appropriate
     ▪ produce suitable messages i.e. error messages and save message
     ▪ clear record ready for next data entry
• produced a more complex data input form:
   o customised it
     ▪ title
	Learners will:
	• produce 2 queries
	• produce 1 report
	• produce screen print evidence of
	   o design view and datasheet view of all queries
	   o design view of database report and database report saved as a pdf
	
	Marks: 12
	Template provided
	
	Key differences:
	• only 2 queries as opposed to 4 (fewer screen prints)
	• fewer fields in database

▪ layout ▪ data input aids etc ○ added automated routine (not all in every paper) ▪ filter data ▪ refresh/re-query controls ▪ use control events ▪ use formulae ▪ only save the record if appropriate ▪ produce suitable messages i.e. error messages and save message ▪ clear record ready for next data entry (if appropriate) • produced 4 queries • produced 1 report • produced screen print evidence of: ○ simple form in design and form view ○ more complex form in design and form view ○ all automation e.g. macros/code, queries used in forms/controls etc. ○ design view and datasheet view of all queries ○ design view of database report and database report saved as a pdf Marks: 26 Template provided	• now has 12 marks attached to queries and report as a standalone activity.

Part B – Activity 6 – Forms and automation
Learners will: • produce a simple data input form: ○ customise it   ▪ title   ▪ layout   ▪ data input aids etc   ○ add automated routine   ▪ only save the record if appropriate   ▪ produce suitable messages i.e. error messages and save message   ▪ clear record ready for next data entry   • produce a more complex form: ○ customise it   ▪ title   ▪ layout   ▪ data input aids etc   ○ add automated routine   ▪ filter data   ▪ refresh/re-query controls   ▪ use control events   ▪ use formulae   ▪ produce suitable messages   • produce screen print evidence of: ○ simple form in design and form view   ○ more complex form in design and form view   ▪ all automation e.g. macros/code, queriers used in forms/controls   Marks: 14 Template provided Database provided (.accdb or .mdb) **Key differences:**   • database is provided. Learners told which two tables they need to use in the exam paper   • only the simpler form will include an automated save routine   • validation for simpler form will be required and must be added via the form/form macro/form code (e.g. presence check)   • more complex form does not require validation such as presence checks etc.   • fewer fields on the forms   • now has 14 marks attached to it as a standalone activity.   • database provided

Activity 4 - Testing	**Activity 4 – Part A – Table testing**
Learners: • tested their forms: ○ completed test plan ○ carried out given tests ○ documented tests using screen prints/comments.	Learners will: • test their tables: ○ complete test plan ○ carry out given tests ○ document tests using screen prints/comments Marks: 6

Summary of changes

Marks: 12 Template provided – pre-populated	Template provided – not pre-populated **Key differences:** • 6 marks attached to it as a standalone activity in part A • template is not pre-populated • tests to be carried out given in exam paper • no longer need to specify purpose of the tests • it is table testing
	Activity 7 – Part B – Form testing

	Learners will:
	• test their forms:
	   ○ complete test plan
	   ○ carry out given tests
	   ○ document tests using screen prints/comments
	
	Marks: 6
	Template provided – not pre-populated
	
	Key differences:
	• 6 marks attached to it as a standalone activity in part B
	• fewer tests
	• template is not pre-populated

Activity 5 – Evaluation	**Activity 5 – Part A – Structure evaluation**
Learners evaluated: • database structure • forms • changes made during development • related to scenario • quality, performance and usability Marks: 12 Template provided – pre-populated	Learners will evaluate: • database structure • relate to scenario Marks: 6 Template not provided What to evaluate specified in the exam paper **Key differences** • no requirement to talk about changes during development • no requirement to talk about the quality, performance and usability of the database. • 6 marks attached to it as a standalone activity in part A • template is not provided
	Activity 8 – Part B – Form evaluation
	Learners will evaluate: • forms • relate to scenario • quality, performance and usability of the forms. Marks: 6 No template provided **Key differences** • no requirement to talk about changes during development • 6 marks attached to it as a standalone activity in part B. • No template provided.

Summary of changes

Submission requirements	Submission requirements
- Activity 1 pdf - Activity 2 pdf - Activity 3 pdf - Database report pdf - Activity 4 pdf - Activity 5 pdf	*Part A* - Activity 1 pdf - Activity 2 pdf - Activity 3 pdf - Activity 3d pdf - Activity 4 pdf - Activity 5 pdf - Final version databases (for quality check purposes only. Not assessed) *Part B* - Activity 6 pdf - Activity 7 pdf - Activity 8 pdf - Final version of database (for quality check purposes only. Not assessed)

Sample assessment material for first teaching September 2016	
Time: 3 hours	Paper Reference **31761H**

Information Technology

Unit 2: Creating Systems to Manage Information

Part A

You must have:
activity2.rtf, activity3.rtf, activity4.rtf

Instructions

- **Part A** and **Part B** contain the material for the completion of the set tasks under supervised conditions.
- There are 40 marks for **Part A** and 26 marks for **Part B**, giving a total mark for the set tasks of 66.
- **Part A** and **Part B** are specific to each series and this material must be issued only to learners who have been entered to take the tasks in the specified series.
- Learners **must only** have access to **Part A** during this examination session.
- This booklet should be kept securely until the start of the 3-hour supervised assessment period.
- **Part A** and **Part B** should be submitted together for each learner.
- This booklet should not be returned to Pearson.
- Answer **all** activities.

Information

- The total mark for this paper is 40.

Turn over ▶

S 6 4 0 8 7 A

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Outcomes for submission

Each learner must create a folder to submit their work. Each folder should be named according to the following naming convention:

[Centre #]_[Registration number #]_[surname]_[first letter of first name]_PartA

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_F180542_Smith_J_PartA

Each learner will need to submit 6 PDF documents and their final database within their folder.

The 6 PDF documents should use these file names:

Activity 1:   activity1_[Registration number #]_[surname]_[first letter of first name]
Activity 2:   activity2_[Registration number #]_[surname]_[first letter of first name]
Activity 3:   activity3_[Registration number #]_[surname]_[first letter of first name]
Activity 3d: activity3d_[Registration number #]_[surname]_[first letter of first name]
Activity 4:   activity4_[Registration number #]_[surname]_[first letter of first name]
Activity 5:   activity5_[Registration number #]_[surname]_[first letter of first name]

An authentication sheet must be completed by each learner and submitted with the final outcomes.

Read the set task information carefully.

Plan your time carefully to allow for the preparation and completion of all the activities.

Internet access is not allowed.

You will complete this set task under supervision and your work will be kept securely at all times.

You must work independently throughout the examination and must not share your work with other learners.

Your invigilator may clarify the wording that appears in this task but cannot provide any guidance in completion of the task.

Part B materials **must not** be accessed during the completion of **Part A**.

Outcomes for submission

You must create a folder to submit your work.

Each folder should be named according to the following naming convention:

[Centre #]_[Registration number #]_[surname]_[first letter of first name]_PartA

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_F180542_Smith_J_PartA

You will need to submit 6 PDF documents and your final database within this folder.

The 6 PDF documents should use these file names:

Activity 1:   activity1_[Registration number #]_[surname]_[first letter of first name]
Activity 2:   activity2_[Registration number #]_[surname]_[first letter of first name]
Activity 3:   activity3_[Registration number #]_[surname]_[first letter of first name]
Activity 3d: activity3d_[Registration number #]_[surname]_[first letter of first name]
Activity 4:   activity4_[Registration number #]_[surname]_[first letter of first name]
Activity 5:   activity5_[Registration number #]_[surname]_[first letter of first name]

You must complete an authentication sheet before you hand your work into your invigilator.

Part A Set Task Brief

You are advised to spend 10 minutes reading the Task Scenario and the activities you are to complete.

You may make notes and/or highlight information to use in the completion of the documents you need to produce for your task.

Task Scenario

You have been asked to create a database for an organisation called 'Get Our Beaches Clean'. The organisation is managed by a small group of volunteers. These volunteers review all of the beaches every year.

The database will record information about:

- the beaches
- the volunteers
- the yearly reviews.

Beaches are categorised by their type, e.g. sandy.

The number of times a beach has been cleaned during the year is recorded.

A volunteer may be assigned to one or more districts, e.g. Boroughside.

A district has only one volunteer.

A beach has a cleanliness rating of at least 1 and a maximum of 3. 1 is the best rating.

An extract of the data the organisation would like to record is shown in **Figure 1**.

Beach ID	Rubbish Collected KG	Num Clean Ups In Year	District Name	Review Year	Volunteer Mobile	Volunteer Surname	Beach Name	Volunteer ID	Beach Type	Lifeguard	District ID	Cleanliness Rating Review
1	125	2	Boroughside	2018	06979752229	Frost	Castle	1	Sandy	Yes	1	1
1	149	2	Boroughside	2019	06979752229	Frost	Castle	1	Sandy	Yes	1	2
2	221	1	Crimbuston	2018	06274831576	Janecek	Norbaston	2	Sand and shingle	No	2	2
2	229	1	Crimbuston	2019	06274831576	Janecek	Norbaston	2	Sand and shingle	No	2	3
3	247	1	Northend	2018	06979752229	Frost	Sidewind	1	Sand and rock	Yes	3	2
3	0	0	Northend	2019	06979752229	Frost	Sidewind	1	Sand and rock	Yes	3	2

Figure 1

Part A Set Task

You must complete ALL activities within the set task.

Produce your documents using a computer.

Save your documents in your folder ready for submission using the formats and naming conventions indicated.

Activity 1: Database relationships screenprint (45 minutes)

Study the data extract provided in **Figure 1**.

Create an efficient database structure that:

- minimises data duplication
- accepts the data provided
- uses recognised naming conventions
- ensures data integrity.

Ensure you use **all** and **only** the fields shown in **Figure 1**.

Screen print your database relationships.

Save your database relationships screenprint as a PDF in your folder for submission as **activity1_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 45 minutes on this activity.

(Total for Activity 1 = 8 marks)

Activity 2: Table structures and validation (45 minutes)

Create an efficient table structures based on Activity 1 and the data shown in **Figure 1**.

The table structures must use suitable validation to meet these requirements:

- a record will not save without the surname and telephone number of the volunteer information being present
- a record will not save if the volunteer mobile number is not in the correct format
- a record will not save if a beach is assigned to an invalid district
- a record will not save if a district is assigned an invalid volunteer
- a record will not save if the cleanliness rating review is below the accepted range
- a record will not save if the cleanliness rating is above the accepted range.

Input the data given in **Figure 1** into your relational database.

Evidence your table structures and validation as screenprints using the given **activity2.rtf** template.

Display your screenprints to show:

- the design view of each table showing the structure, including the fields and data types
- validation including a suitable example for each of these:
    - presence check
    - length check
    - value lookup **or** range check
    - table lookup
    - format check.

Save your evidence of the table structures as a PDF in your folder for submission as **activity2_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 45 minutes on this activity.

<div align="right">(Total for Activity 2 = 8 marks)</div>

Activity 3: Queries and Report (40 minutes)

Queries

(a) Create a query to display an alphabetically sorted list of beach names for beaches with lifeguards in Boroughside and Northend. It must display the names of the beaches and districts only.

(b) Create a query to calculate and display for each district:
  •   the average weight of rubbish collected
  •   best and worst cleanliness ratings
  •   the difference between the two ratings.

   Evidence your queries as screenprints using the given **activity3.rtf** template.

   Your screenprints must show:
  •   the **DESIGN** view of the two queries specified that you have created, including fields and criteria
  •   the **DATASHEET** view of the two queries specified that you have created.

Report

(c) Create a report that is grouped by year and shows each of the yearly reviews for the beaches that:
- have at least 150 kg of rubbish collected
- and a cleanliness rating of 2 or 3.

For each year, display:
- the beach name
- district name
- review details.

Calculate and display:
- the total weight of rubbish
- the total number of clean ups.

The report must fit on one page.

Evidence your report as screenprints using the given **activity3.rtf** template.

Your screenprints must show:

- the **DESIGN** view of the report you have created, including grouping and calculations
- the **DESIGN** view of any queries you have created and used with the report, including fields and criteria
- the **DATASHEET** view of any queries you have created and used with the report.

Save your query and report evidence as a PDF in your folder for submission as **activity3_[Registration number #]_[surname]_[first letter of first name]**

(d) Save your database report (not a screenshot) as a PDF in your folder for submission as **activity3d_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 40 mins on this activity.

(Total for Activity 3 = 12 marks)

Activity 4: Structure Testing (20 minutes)

Test the structure of the validation of your relational database using suitable test data (normal, erroneous and extreme as appropriate).

You must provide evidence of table level testing that proves:

1. a record will not save without all of the appropriate volunteer information being present
2. a record will not save if the volunteer mobile number is not in the correct format
3. a valid volunteer record will save correctly
4. a record will not save if a beach is assigned to an invalid district
5. a record will not save if a district is assigned an invalid volunteer
6. a record will not save if the cleanliness rating review is below the accepted range
7. a record will not save if the cleanliness rating is above the accepted range.

Complete the test log to show how you have tested the structure of your database using the given **activity4.rtf** template.

Save your test log as a PDF in your folder for submission as
activity4_[Registration number #]_[surname]_[first letter of first name]

You are advised to spend 20 minutes on this activity.

(Total for Activity 4 = 6 marks)

Activity 5: Structure Evaluation (20 minutes)

Evaluate your database structure.

You should consider:

• how well your database structure has minimised data duplication
• how well your database structure meets these requirements:
  • beaches are categorised by their type, e.g. sandy
  • a volunteer may be assigned to one or more districts, e.g. Boroughside
  • a district has only one volunteer
  • a beach has a cleanliness rating of at least 1 and a maximum of 3.

Save your evaluation as a PDF in your folder for submission as
activity5_[Registration number #]_[surname]_[first letter of first name]

You are advised to spend 20 minutes on this activity.

(Total for Activity 5 = 6 marks)

TOTAL FOR PART A = 40 MARKS

Time: 2 hours	Paper Reference **31761H**

Information Technology

Unit 2: Creating Systems to Manage Information

Part B

You must have:
activity6.rtf, activity7.rtf, partB_database.accdb or partB_database.mdb

Instructions

- **Part A** and **Part B** contain the material for the completion of the set tasks under supervised conditions.
- There are 40 marks for **Part A** and 26 marks for **Part B**, giving a total mark for the set tasks of 66.
- **Part A** and **Part B** are specific to each series and this material must be issued only to learners who have been entered to take the tasks in the specified series.
- Learners **must only** have access to **Part B** during this examination session.
- This booklet should be kept securely until the start of the 2-hour supervised assessment period.
- **Part A** materials **must not** be accessed during the completion of **Part B**.
- **Part A** and **Part B** should be submitted together for each learner.
- This booklet should not be returned to Pearson.
- Answer **all** activities.

Information

- The total mark for this paper is 26.

Turn over ▶

Instructions to Invigilators

This paper must be read in conjunction with the unit information in the specification and the *BTEC Nationals Instructions for Conducting External Assessments (ICEA)* document. See the Pearson website for details.

Refer carefully to the instructions in this task booklet and the *Instructions for Conducting External Assessments (ICEA)* document to ensure that the assessment is supervised correctly.

The 2-hour **Part B** set task must be carried out under examination conditions.

The database and electronic templates for Activities 6 and 7 are available on the website for centres to download for candidate use.

Learners must complete this task on a computer using the templates provided and appropriate software. All work must be saved as PDF documents for submission.

Invigilators may clarify the wording that appears in this task but cannot provide any guidance in completion of the task.

Invigilators should note that they are responsible for maintaining security and for reporting issues to Pearson.

Maintaining Security
- Learners must not bring anything into the examination environment or take anything out.
- Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the examination environment.
- Internet access **is not** permitted.
- Learner's work must be regularly backed up. Learners should save their work to their folder using the naming instructions indicated in each activity.
- During any permitted break, and at the end of the examination, materials must be kept securely, and no items removed from the supervised environment.
- Learners can only access their work under supervision.
- User areas must only be accessible during the examination session and only by the individual learners.
- Any materials being used by learners must be collected in at the end of the examination.
- Following completion of **Part B** of the set task, all materials must be retained securely for submission to Pearson.
- **Part A** materials must not be accessed during the completion of **Part B**.

Outcomes for submission

Each learner must create a folder to submit their work. Each folder should be named according to the following naming convention:

[Centre #]_[Registration number #]_[surname]_[first letter of first name]_PartB

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_F180542_Smith_J_PartB

Each learner will need to submit 3 PDF documents and their final database within their folder.

The 3 PDF documents should use these file names:

Activity 6:   activity6_[Registration number #]_[surname]_[first letter of first name]
Activity 7:   activity7_[Registration number #]_[surname]_[first letter of first name]
Activity 8:   activity8_[Registration number #]_[surname]_[first letter of first name]

An authentication sheet must be completed by each learner and submitted with the final outcomes.

Read the set task information carefully.

Plan your time carefully to allow for the preparation and completion of all the activities.

Internet access is not allowed.

You will complete this set task under supervision and your work will be kept securely at all times.

You must work independently throughout the examination and must not share your work with other learners.

Your invigilator may clarify the wording that appears in this task but cannot provide any guidance in completion of the task.

Part A materials **must not** be accessed during the completion of **Part B**.

Outcomes for submission

You must create a folder to submit your work.

Each folder should be named according to the following naming convention:

[Centre #]_[Registration number #]_[surname]_[first letter of first name]_PartB

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345_F180542_Smith_J_PartB

You will need to submit 3 PDF documents and your final database within this folder.

The 3 PDF documents should use these file names:

Activity 6:   activity6_[Registration number #]_[surname]_[first letter of first name]
Activity 7:   activity7_[Registration number #]_[surname]_[first letter of first name]
Activity 8:   activity8_[Registration number #]_[surname]_[first letter of first name]

You must complete an authentication sheet before you hand your work into your invigilator.

Part B Set Task Brief

You are advised to spend 10 minutes reading the Task Scenario and the activities you are to complete.

You may make notes and/or highlight information to use in the completion of the documents you need to produce for your task.

Task Scenario

'Get Our Beaches Clean' has partially developed a database that will eventually be merged with the database you created in **Part A**.

The organisation relies on donations from the general public to publicise the cleaning campaigns, provide transport and cleaning materials.

Donors are given a status of Bronze, Silver, Gold or Platinum.

- Bronze status is for those whose total donations are below £26.
- Silver status is for those whose total donations are from £26 to £50.
- Gold status is for those whose total donations are from £51 to £75.
- Platinum status is for those whose total donations are over £75.

Part B Set Task

You must complete ALL activities within the set task.

Produce your documents using a computer.

Save your documents in your folder ready for submission using the formats and naming conventions indicated.

Activity 6: Forms (1 hour 10 minutes)

Note

- the structure of the tables provided should not be changed in any way, e.g. do not add validation, do not change data types.
- you will only be required to use tblDonor and tblDonation

(a) Create an efficient interface that will facilitate database input by producing:

(i) an input form to add a donor.

- The form should be ready for data entry.
- The donor's surname and email address must be present.
- The donor's email address must use a valid format.
- Valid data should be appended to the donor table and a save message should display.
- A suitable error message should appear where invalid data has been used.

(ii) an input form to add a donation.

- The form should not include validation for any fields.
- The form should not include an automated routine to save the data.
- The form should include a button labelled 'update donor record'.
- The donation date should be automatically set to today's date.
- The user should be able to select the donor.
- The donor status should be displayed on the form.
- The total donations made by the donor should be displayed on the form.
- The user should be able to input a donation amount.
- When the user clicks the 'update donor record' button:
  - an updated total donations should be displayed on the form or in a message box
  - an updated donor status should be displayed on the form or in a message box, e.g. changing from Bronze to Silver.

Evidence your interface as screenprints using the given **activity6.rtf** template.

Display screenprints to show:

- the **DESIGN** view and **FORM** view of all the forms you have created
- the **DESIGN** view of any queries you have created and used with the forms including fields and criteria
- the **DATASHEET** view of any queries you have created and used with the forms
- details of any calculations, validation and macros/code you have created and used with the forms.

Ensure sufficient information is provided to allow a competent third party to maintain the database.

Save the evidence of your interface as a PDF in your folder for submission as **activity6_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 1 hour and 10 minutes on this activity.

(Total for Activity 6 = 14 marks)

Activity 7: Interface testing (20 minutes)

Test the interface of your relational database using suitable test data (normal, erroneous and extreme as appropriate).

You must not add validation to any of the tables.

You must provide evidence of **form level** testing that proves:

1. a record will not save in the donor table without a donor's surname
2. a record will not save in the donor table without a donor's email address
3. a record will save in the donor table if the donor's details are present and valid
4. today's date will be automatically assigned as the donation date
5. a donor can be selected, and their current status and total donations automatically shown
6. after the donation amount is input and the update button clicked the total donations and status will update to show any changes.

Complete the test log to show how you have tested your input forms using the given **activity7.rtf** template.

Save your test log as a PDF in your folder for submission as **activity7_[Registration number #]_[surname]_[first letter of first name]**

You are advised to spend 20 minutes on this activity.

(Total for Activity 7 = 6 marks)

Activity 8: Interface evaluation (20 minutes)

Evaluate your interface.

You should consider

- the quality, performance and usability of the interface you have created in terms of how well it ensures:
  - a record will not save in the donor table without a donor's surname
  - a record will not save in the donor table without a donor's email address
  - a record will save in the donor table if the donor's details are present and valid
  - today's date will be automatically assigned as the donation date
  - a donor can be selected, and their current status and total donations automatically shown
  - after the donation amount is input and the update button clicked the total donations and status will update to show any changes.

Save your evaluation as a PDF in your folder for submission as
activity8_[Registration number #]_[surname]_[first letter of first name]

You are advised to spend 20 minutes on this activity.

(Total for Activity 8 = 6 marks)

TOTAL FOR PART B = 26 MARKS

Unit 2: Creating Systems to Manage Information - Marking grid

General Marking Guidance

All learners must receive the same treatment. Examiners must mark the first learner in exactly the same way as they mark the last.

Marking grids should be applied positively. Learners must be rewarded for what they have shown they can do rather than penalised for omissions.

Examiners should mark according to the marking grid not according to their perception of where the grade boundaries may lie.

All marks on the marking grid should be used appropriately.

All the marks on the marking grid are designed to be awarded. Examiners should always award full marks if deserved. Examiners should also be prepared to award zero marks if the learner's response is not rewardable according to the marking grid.

Where judgment is required, a marking grid will provide the principles by which marks will be awarded.

When examiners are in doubt regarding the application of the marking grid to a learner's response, a senior examiner should be consulted.

Specific Marking guidance

The marking grids have been designed to assess learner work holistically.

Rows within the grids identify the assessment focus/outcome being targeted. When using a marking grid, the 'best fit' approach should be used.

Examiners should first make a holistic judgement on which band most closely matches the learner response and place it within that band. Learners will be placed in the band that best describes their answer.

The mark awarded within the band will be decided based on the quality of the answer in response to the assessment focus/outcome and will be modified according to how securely all bullet points are displayed at that band.

Marks will be awarded towards the top or bottom of that band depending on how they have evidenced each of the descriptor bullet points.

Part A

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4	Max. mark
Activity 1: ERD screenprint	**0**	**1-2**	**3-4**	**5-6**	**7-8**	**8**
	No rewardable material	ERD shows an attempt at normalisation with significant data redundancy. ERD has some correct relationships shown.	ERD shows that most data is correctly normalised with some data redundancy. ERD has some correct relationships and some correct relationship types.	ERD shows that most data is correctly normalised with minimal data redundancy. ERD has mostly correct relationships and mostly correct relationship types shown.	The ERD shows that the data is correctly normalised with no data redundancy. ERD has correct relationships and relationship types shown throughout.	
Activity 2: Table structure and validation	**0**	**1-2**	**3-4**	**5-6**	**7-8**	**8**
	No rewardable material	Uses some meaningful field and table names with some inconsistencies. The table structure identifies some primary and foreign key fields. The table structure has limited use of correct data types. Limited use of validation which may be inaccurate.	Uses meaningful field and table names with minor inconsistencies. The table structure identifies most primary and foreign key fields. The table structure has correct data types for most fields. Accurate validation rules for some of the fields that require validation.	Uses a recognised naming convention with minor inconsistencies for fields and tables. The table structure identifies all primary and most foreign key fields. The table structure has correct data types for most fields including matching primary and foreign key fields. Accurate validation rules for most of the fields that require validation.	Uses a recognised naming convention consistently for fields and tables. The table structure identifies all primary and foreign key fields. The table structure has correct data types for all fields. Accurate validation rules for all fields that require validation.	

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4	Max. mark
Activity 3: Queries and Report	**0**	**1-3**	**4-6**	**7-9**	**10-12**	**12**
	No rewardable material	Queries and report include limited relevant fields. Queries and report include details of some criteria and calculations required, which may include inaccuracies. Presentation of data in queries and report will not aid readability and understanding of data.	Queries and report includes some relevant fields. Queries and report include accurate details of some criteria and calculations required. Presentation of data in queries and report will, in places, aid readability of and understanding of data.	Queries and report includes mostly relevant fields. Queries and report includes accurate details of most criteria and calculations required. Presentation of data in queries and report will mostly aid readability and understanding of data.	Queries and report includes all relevant fields only. Queries and report include accurate details of all criteria and calculations required. Presentation of data in queries and report will aid readability and understanding of data.	

Assessment focus	Band 0	Band 1	Band 2	Band 3	Max Marks
Activity 4: Structure Testing	0	1-2	3-4	5-6	6
	No rewardable material	Testing is too narrow to confirm a working solution, including limited normal, erroneous and/or extreme data. Expected results are generic or mostly inaccurate. Test data may not be present Test results prove that that the database operates under some normal circumstances relevant to the scenario. Test result comments are present when errors have been found. These comments show a limited understanding of any errors that were found.	Testing is adequate to confirm a working solution, including some normal, erroneous and/or extreme data. Expected results are mostly accurate and based on identified test data but may lack detail. Test results prove that that the database operates under some normal circumstances and that the interface can cope with some erroneous and extreme data relevant to the scenario. Test result comments are present when errors have been found. These comments show partial understanding of any errors that were found.	Testing is thorough, including a range of normal, erroneous and extreme data. Expected results are specific and accurate based on identified test data. Test results prove that that the database operates under all circumstances relevant to the scenario. Test result comments are present when errors have been found. These comments show a clear understanding of any errors and how they were fixed.	

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Assessment focus	Band 0	Band 1	Band 2	Band 3	Max. mark
Activity 5: Structure Evaluation	**0**	**1-2**	**3-4**	**5-6**	**6**
	No rewardable material	Superficial understanding of relevant technical concepts shown with some inaccuracies. Limited or unsupported justification of the relational database structure selected. Limited links between aspects of the solution and the requirements of the scenario. Technical vocabulary is used but it is not used appropriately to support arguments.	Some accurate and relevant understanding of technical concepts shown. Some valid justification, which may lack support of the relational database structure selected. Some logical links between aspects of the solution and the requirements of the scenario but may lack clarity. Mostly accurate technical vocabulary is used to support arguments.	Accurate and detailed understanding of relevant technical concepts shown throughout. A valid and fully supported justification of the relational database structure selected. Makes logical coherent links between aspects of the solution and the requirements of the scenario throughout. Fluent and accurate technical vocabulary is used to support arguments.	

Part B

Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4	Max. mark
Activity 6:	**0**	**1-4**	**5-7**	**8-10**	**11-14**	14
Interface and Functionality	No rewardable material	Interface is unclear or provides limited information and there are inconsistencies and inaccuracies in formatting, so a user would experience difficulty in using the database and making maintenance by a third party difficult.	Interface is clear but there are some inconsistencies and inaccuracies in formatting allowing a user to use the database with minor difficulties and allowing maintenance by a third party with minor difficulties.	Interface is clear with minimal inconsistencies and inaccuracies in formatting allowing a user to use the database easily and allowing maintenance by a third party with minor difficulties.	Interface is clear and intuitive, consistently and accurately formatted allowing a user to easily use the database and allowing it to be easily maintained by a third party.	
		Interface may not have details of criteria/calculations required, or these may include inaccuracies.	Interface includes accurate details of some criteria/calculations required.	Interface includes accurate details of most criteria/calculations required.	Interface includes accurate details of all criteria/calculations required.	
		Interface uses minimal validation, checking procedures and automation resulting in a system with limited capacity to reduce errors or handle unexpected events.	Interface uses some accurate validation, checking procedures and automation, resulting in a system that minimises the most common errors and handles some unexpected events.	Interface uses accurate validation, checking procedures and automation, resulting in a system that minimises the majority of errors and handles most unexpected events.	Interface uses accurate validation, checking procedures and automation throughout, resulting in a robust system that minimises errors and handles unexpected events.	
		Interface may not be fully functional and/or may have major errors that prevent the interface from meeting the given criteria.	Interface is functional and meets some of the given criteria with minimal errors.	Interface is functional with minimal errors and meets the given criteria.	Interface is fully functional and fully meets the given criteria.	

Assessment focus	Band 0	Band 1	Band 2	Band 3	Max Marks
Activity 7: Interface Testing	0	1-2	3-4	5-6	6
	No rewardable material	Testing is too narrow to confirm a working interface, including limited normal, erroneous and/or extreme data. Expected results are generic or mostly inaccurate. Test data may not be present Test results prove that that the database operates under some normal circumstances relevant to the scenario. Test result comments are present when errors have been found. These comments show a limited understanding of any errors that were found.	Testing is adequate to confirm a working interface, including some normal, erroneous and/or extreme data. Expected results are mostly accurate and based on identified test data but may lack detail. Test results prove that that the database operates under some normal circumstances and that the interface can cope with some erroneous and extreme data relevant to the scenario. Test result comments are present when errors have been found. These comments show partial understanding of any errors that were found.	Testing is thorough, including a range of normal, erroneous and extreme data. Expected results are specific and accurate based on identified test data. Test results prove that that the database operates under all circumstances relevant to the scenario. Test result comments are present when errors have been found. These comments show a clear understanding of any errors and how they were fixed.	

Assessment focus	Band 0	Band 1	Band 2	Band 3	Max. mark
Activity 8: Interface Evaluation	**0**	**1-2**	**3-4**	**5-6**	**6**
	No rewardable material	Superficial understanding of relevant technical concepts shown with some inaccuracies. Limited or unsupported justification of the quality, performance and usability of the interface. Limited links between aspects of the solution and the requirements of the scenario. Technical vocabulary is used but it is not used appropriately to support arguments.	Some accurate and relevant understanding of technical concepts shown. Some valid justification, which may lack support of the quality, performance and usability of the interface. Some logical links between aspects of the solution and the requirements of the scenario but may lack clarity. Mostly accurate technical vocabulary is used to support arguments.	Accurate and detailed understanding of relevant technical concepts shown throughout. A valid and fully supported justification of the quality, performance and usability of the interface. Makes logical coherent links between aspects of the solution and the requirements of the scenario throughout. Fluent and accurate technical vocabulary is used to support arguments.	

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